# Contributions to the Knowledge of the "Staphylinus-complex" (Coleoptera, Staphylinidae, Staphylinini) of China

Part 8. The Genus Miobdelus, Section 2

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Abstract Taxonomic and faunistic data of the species of the genus *Miobdelus* from the People's Republic of China are provided. Five species are described as new: *M. rufipes* (Yunnan), *M. kitawakii* (Sichuan), *M. opacus* (Sichuan), *M. tenuis* (Sichuan), and *M. gemellus* (Hubei and Shaanxi). *Miobdelus insignis* is redescribed. *Miobdelus atricornis* is recorded for the first time from Gansu, *M. insignis* from Shaanxi and Sichuan. A key to the species of *Miobdelus* of mainland China is provided. A checklist of the species of *Miobdelus* known at present is attached.

#### Introduction

This is the second paper dealing with the genus *Miobdelus*. It presents the results of the study of an additional rich material (about 350 specimens) that became available recently.

The symbols used in the text, when referring to the depositions of specimens are as follows:

ASC Collection of ALEŠ SMETANA, Ottawa, Canada

MDC Collection of MIROSLAV DVOŘÁK, Praha, Czech Republic

MCS Collection of MICHAEL SCHÜLKE, Berlin, Germany

YSC Collection of YASUTOSHI SHIBATA, Tokyo, Japan

The number of paratypes, if applicable, is given for each locality behind the geographical data, followed by the acronym of the collection in which the paratype(s) are deposited in brackets. All data are presented in full for holotypes and allotypes.

#### Miobdelus atricornis Smetana

Miobdelus atricornis SMETANA, 2001, 184.

New records. China: [Gansu]: Min Shan, 70 km NW Wudo, 2100 m, 25.VII. 2000, A. Gorodinski leg. [16] (ASC, YSC); Min Shan, 70 km NW Wudu, Dierlincheng, 2700 m, 16.VI.2001, A. Gorodinski leg. [6] (ASC, YSC); Min Shan, 2300–3300 m, 33°30′N 104°35′E, 27.VII.–14.VIII.2000, leg. A. Plutenko [9] (ASC,

MSC). [Shaanxi]: 65 km S Xi'an, 2200-2500 m, 2.-10.VIII.1998, P.F. Cavazutti [13] (ASC); Taibaishan Mts., N Houzhenzi, 2460 m, 3.VIII.98, leg. S. Murzin [2] (ASC); same, 33°53'N 107°49'E, 3000 m, VII.2000, leg. Plutenko [1] (MSC); Qinling Shan, mountain range W pass on road Xi'an-Shagoujie, 45 km SSW Xi'an, 2675 m, 35°52'N 108°46'E, 25.VII.2001, Wrase [1] (ASC); same, but collected by M. Schülke [3] (MSC); Maijieshi, SW of Chang an Xian, 2410-2700 m, 16.-17.V.1993, Koiwaya & Fang leg. [3] (ASC, YSC); near headwaters of Loyu-He, SW of Hu-Xian, 2000 m, 11.V.1993, Y. Imura leg. [1] (YSC). [Sichuan]: pass btw. Songpan & Nanping, E side, 3450–3500 m, 21.VI.02, leg S. Murzin and I. Shokhin [9] (ASC, MSC); Maoxian env., 1500-3000 m, 27.-31.VII.2000, S. Murzin [5] (ASC, MSC); E pass btw. Zhongla-Jiuzhaigou, 3500 m, 8.-11.VII.2001, leg. S. Murzin [30] (ASC, MSC); Sabde, 29°04'N 101°25′E, 25.6.2001, M. Janata leg. [1] (ASC); Erlang Shan pass, 3200 m, VII.2000, M. Häckel leg. [1] (ASC); Rilong env., 3500 m, 10.–16.VII.2000, leg. S. Murzin [12] (ASC, MSC): 53 km NW Lixian, 2750-3000 m, VII.2001, leg S. Murzin [5] (ASC, MSC); mts. 20 km W Yajiang, 150 km W Kangding, 4300-4600 m, 23.VII.98, leg. S. Murzin [1] (MSC); Jintang, Jiajin Shan, 3400 m, 30°22'N 102°16'E, 6.VII. 2001, M. Janata leg. [1] (ASC); Jiuzhaigou, 13.VI.2001 [10] (ASC, YSC); Jiuzhaigou env., 3600 m, 19.VI.2002, A. Gorodinski leg. [22] (ASC, YSC); valley 39 km SSW Zamtang, 31°54′N 100°58′E, 3700 m, 16.–19.VII.2001, J. Kaláb leg. [18] (ASC,YSC); pass 35 km NNE Luhuo, 31°43′N 100°44′E, 3800 m, 1.–3.VII.2001, J. Kaláb leg. [2] (ASC,YSC); Kangding Co., Gongga Shan-N part SW of Kangding, 3200-4600 m, 29°46–59′ 101°45–52′, 2.–9.VI.2001, L.& R. Businský [3] (ASC, YSC); Gongga Shan, W foot of the 7556 m peak, 3300–4500 m, 29°30–39′ 101°45–46′, 13.–17.VI. 2001, L. & R. Businský [3] (ASC, YSC); Gongga Shan, NW side of central part, 3800–4400 m, 29°38–46′ 101°42–45′, 10.–12.VI.2001, L. & R. Businský [3] (ASC, YSC); Heishui Xian, Kalong-gou valley, above Caigai, 2920–2970 m, 12.–14.VI.2001, Y. Imura leg. [11] (ASC, YSC); same data but 3020-3070 m, 12.-15.VI.2001 [4] (YSC); Songpan, 3300 m, 7.VII.2001, A. Gorodinski leg. [3] (ASC, YSC); [Yunnan]: Zhongdian Co., Mts. 17 km NW of Zhongdian, 3500-4000 m, 27°53-56'N 99°33-37'E, 15.–23.V.99, L. & R. Businský lgt. [4] (ASC); Zhongdian city env., 3400 m, 5.VII.2000, A. Gorodinski leg. [5] (ASC, YSC); Shudu lake, NW Zhongdian, 3500 m, 20.VI.2002 [2] (YSC).

Comments. Miobdelus atricornis is one of the frequent and widely distributed species of the genus. It prefers forest habitats of lower and medium mountain elevations. It occasionally occurs also at elevations above 3,500 m, but apparently in high montane coniferous forest habitats; it seems to avoid alpine meadow habitats. These are the first records of the species from Gansu.

#### Miobdelus montivagus SMETANA

Miobdelus montivagus SMETANA, 2001, 196.

New records. China: [Gansu]: Xiahe (Labrang), 3300–3700 m, 1.–15.VI.98, leg.

V. Major [2] (NSC); Labrang, valley E of Ponggartang, 3000-3700 m, 36°12-13'N 102°54–56′E, 10.–14.VII.1999, B. Březina [2] (ASC); Langmusi, 3800–4000 m. 17.-19.VII.2001, S. Murzin leg. [4] (ASC, YSC); 25 km N Hezeo, 21.-23.VII.2001, S. Murzin leg. [5] (ASC, YSC). [Shaanxi]: Oin Ling range, Taibaishan, 3200 m. 12.VI.1999 [18] (ASC, YSC). [Sichuan]: pass btw. Songpan & Nanping, W side, 3450-500 m, 21.VI.02, leg. S. Murzin and I. Shokhin [11] (ASC, MSC); 55 km NW of Zhangla, 4000 m, 14.–15. VII. 2001, leg. S. Murzin [2] (MCS); E pass btw. Zhangla – Jiuzhaigou, 3500 m, 8.-11.VII.2001, S. Murzin leg. [10] (ASC, YSC); 40 km W Zhangla, 3600–3700 m, 12.–14. VII. 2001, S. Murzin leg. [2] (ASC, YSC); mts. 45 km S Zamtang, 31°52′N 100°59′E, 4600 m, 17.–19.VII.2001, J. Kaláb leg. [1] (YSC); Jitiang, 9.VII.2001 [1] (YSC); road Gorze-Borong, 30 km SW Gorze, 7.–8.VII.1995, J. Kaláb leg. [2] (ASC, YSC); Kangding Co. & Jiulong Co. border, Mugang Ling Mts., central part, 4100-4800 m, 29°13-24′ 101°39-45′, 23.-30.VI.2001, L. & R. Businský [7] (ASC, YSC). [Yunnan]: Dêgên, 17.–18.VII.1996, E. Kučera leg. [6] (ASC, YSC); Dêgên city env., 3300 m, 29. VI. 1998, A. Gorodinski leg. [1] (YSC). Bai Ma Xue Shan, 35 km S Dêgên, 4300-4800 m, 24.VI.98, S. Murzin [1] (MSC); Dashankou pass, 4400 m, 15.–17. VII. 2002, S. Murzin & I. Shokhin leg. [1] (ASC).

Comments. Miobdelus montivagus is another widely distributed species of the genus. It prefers high mountain elevations. It was so far never collected at elevations below 3,000 m and alpine meadows seem to be the preferred habitat.

#### Miobdelus heinzi Smetana

Miobdelus heinzi SMETANA, 2001, 183.

New records. China: [Sichuan]: Mt. Emei-shan, 23.VI.1994, J. Kaneko leg. [3] (ASC, YSC); (Tianguan), pass btw. Tianguan – Luding, 3000 m, 29°51′73″N 102°16′85″E, 4.VII. and 22.VII.2000, lgt. M. Janata [5] (ASC).

Comments. The specimens from Tianguan are associated with *M. heinzi* only tentatively. They differ from those of *M. heinzi* in having a distinct patch of golden-yellow tomentose pubescence in the middle of the fourth visible abdominal tergite (this patch is composed of rusty tomentose pubescence in *M. heinzi*). *Miobdelus heinzi* is therefore positively known only from the Emei Shan range (SMETANA, 2001, 184).

#### Miobdelus gracilis Smetana

Miobdelus gracilis Smetana, 2001, 181.

New records. China: [Sichuan]: pass Xiahe-Honxi, Ta Yan Pint, 3000 m, 17.–25.V.1999, Dr. Vlad. Beneš leg. [6] (ASC, MDC); (Daliang Shan) Meigu, Hingxi, 19.–21. VIII. 1996, K. Kitawaki leg. [6] (ASC, YSC).

Comments. Miobdelus gracilis was so far known only from the Gongga Shan range. The above records extend the distributional range of the species in Sichuan con-

siderably toward southeast.

#### Miobdelus aureonotatus Smetana

Miobdelus aureonotatus SMETANA, 2001, 190.

*New record.* China: [Yunnan]: N of Lijiang, Jade Dragon Mt., 3200 m, 12.VI. 1998, A. Gorodinski leg. [6] (ASC, YSC).

*Comments.* The species is at present known only from the Yulongshan range in northern Yunnan and is likely endemic to it.

## Miobdelus insignis (J. MÜLLER)

(Figs. 1-3)

Staphylinus insignis J. Müller, 1926, 41. Staphylinus fokiensis Bernhauer, 1933, 32. Dinothenarus insignis: Smetana & Davies, 2000, 28. Miobdelus insignis: Smetana, 2003, 115.

Black, head, pronotum and elytra with dark metallic lustre, moder-Description. ately shiny; head with inconspicuous, irregular spot of sparse, yellowish-silvery tomentose hairs on vertex, tempora with relatively dense yellowish-silvery tomentose pubescence; pronotum with inconspicuous, irregular transverse spot of sparse, yellowish-silvery tomentose hairs intermixed with dark tomentose hairs; elytra rather dull, with humeri more or less reddish-brown, on basal half with common spot of greyish tomentose pubescence with irregular distal margin and extended somewhat posteriad along each lateral elytral margin, long setae at posterior elytral margin yellowish-grey; abdominal tergite 6 (fourth visible) with large patch of yellowish-grey tomentose pubescence in middle, visible tergites 1-3 each with a pair of patches of black or piceous-black tomentose pubescence in middle, all visible tergites with dispersed vellowish-grey tomentose hairs, more numerous on anterolateral corners of first visible tergite, and forming two narrow streaks in middle of base of visible tergite 5; maxillary and labial palpi piceous, each with last segment becoming paler, antennae piceousblack, sometimes becoming gradually paler toward apex, legs piceous-black with slightly paler tarsi. Head of rounded quadrangular shape, with broadly rounded posterior angles, wider than long (ratio 1.22), not appreciably dilated behind eyes, eyes moderately large and convex, tempora longer than eyes from above (ratio 1.29); dorsal surface of head densely and relatively finely punctate posteriorly and on tempora, punctation gradually becoming coarser and less dense anteromediad, particularly on clypeus, large pit-like punctures absent, Y-shaped epicranial suture rudimentary, usually with two oblique portions more or less apparent and longitudinal portion only vaguely indicated anteriorly; interspaces between punctures without microsculpture. Antenna long, segment four distinctly longer than wide (ratio 1.60-1.66), segments 8 and 9 slightly longer than wide (ratio 1.18), or as long as wide in female. Pronotum slightly longer than wide (ratio 1.15), anterior margin wider than posterior margin, lateral margin slightly sinuate in about posterior third, disc with almost entirely obsolete middle line, distinctly apparent only in front of posterior pronotal margin; punctation similar to that on head, but finer and denser, narrow interspaces without microsculpture. Scutellum with black tomentose pubescence. Elytra moderately long, at suture about as long as, at sides longer (ratio 1.19) than pronotum at midline, punctation rather fine, quite dense, granulose, elytra therefore appearing dull; disc of each elytron with some large, pit-like punctures. Wings each fully developed, folded under elytron. Abdominal tergite 7 (fifth visible) with distinct, greyish apical seam of palisade setae; tergites finely, densely punctate, punctation gradually becoming coarser toward apex of abdomen, interspaces with very fine, granulose microsculpture.

Male. Sternite 8 with moderately deep and wide, obtusely triangular medioapical emargination. Sternite 9 of genital segment as in Fig. 1, with very long, narrow basal portion and apically subemarginate apical portion. Tergite 10 as in Fig. 2. Aedoeagus (Fig. 3) with apical portion of median lobe of quite characteristic shape.

Length 19.0-21.0 mm.

Type material. J. MÜLLER (1926, 41) described the species from two specimens, one from Japan, and one from "China merid." See SMETANA and DAVIES, 2000, 28 for details; the specimen from China was designated as the lectotype in that paper. See also Recognition and comments below.

Additional material. China: [Shaanxi]: Daba Shan, pass 20 km SSE Zhenping, 1700–1800 m, 31°44′N 109°5′E, 9.VII.2001, A. SMETANA [1] (ASC). [Sichuan]: Mt. Emei, 103°20′E 29°30′N, 4.–18.V.1989, S. & J. Kolibáč leg. [1] (NMB); Yingxiuvan, 20.–26.VI.1996, Beneš & Štepař lgt. [1] (MDC); Qincheng Shan NW Chengdu, 650–700 m, 30°54′N 103°33′E, 3–4.VI.1997, Wrase [2] (ASC, MSC); (Ganzi Tibet. Aut. Pref., Batang Co.) Shalui Shan, 57 km NE Batang. road 318 km 3219, 4,500 m, 3.VII.1999, D.W. Wrase [1] (MSC).

Geographical distribution. Miobdelus insignis is at present known from the provinces of Fujian, Shaanxi and Sichuan, which indicates that the species is widely distributed.

*Bionomics. Miobdelus insignis* seems to be a fairly rare species. It occurs mostly at lower mountain elevations; however, one specimen was taken at 4,500 m (see above). The specimen from Daba Shan was taken by sifting piles of decaying weeds accumulated along the edges of a corn field.

Recognition and comments. Miobdelus insignis is the largest species of the genus. Due to the conspicuous pattern of the tomentose pubescence of the dorsal side of the body, it cannot be confused with any other species of the genus. It is unique in that it is missing the large pit-like punctures on the head that are present in all other species of the genus. This character state obviously contributed to the previous assignment of the species to the genus *Dinothenarus* Thomson, 1858 (see Smetana & Davies, 2000, 28). However, all other character states (mainly male sexual characters, including the characteristic shape of the aedoeagus and paramere) clearly put the

species in the genus Miobdelus.

The second specimen of the original series from "Japonia" was very likely mislabelled. The species was never subsequently collected in Japan (Shibata, 1984, 88) and it almost certainly does not occur there (SMETANA & DAVIES, 2000, 27).

## Miobdelus rufipes sp. nov.

(Fig. 4)

Black, dull, general pubescence black, elytra each with humeral area vaguely paler, rufobrunneous, abdominal tergite 6 (fourth visible) without patch of yellow tomentose pubescence in middle, visible tergites 1-4 each with a pair of small patches of black tomentose pubescence in middle; maxillary and labial palpi testaceobrunneous, antennae brunneopiceous to piceous with first three segments more or less paler, legs entirely rufobrunneous. Head of rounded quadrangular shape, broadly rounded posteriorly, vaguely wider than long (ratio 1.15), slightly dilated behind eyes. eyes moderately large, tempora markedly longer than eyes seen from above (ratio 1.46), dorsal surface of head densely and relatively finely, subrugosely punctate posteriorly and on tempora, punctation gradually becoming coarser and less dense anteriomediad, disc of head with several moderately large, shiny pit-like punctures on posterior portion, Y-shaped epicranial line at most with only posterior longitudinal portion apparent on posterior half of head; interspaces between punctures without microsculpture; black pubescence becoming paler on tempora. Antenna short, segment 4 slightly longer than wide (ratio 1.25), segments 5-7 slightly longer than wide, gradually becoming shorter, segments 8–10 about as long as wide to slightly wider than long, last segment short, distinctly shorter than two preceding segments combined. Pronotum slightly longer than wide (ratio 1.14), anterior margin wider than posterior margin, lateral margins arcuately sinuate at about posterior third, disc with vaguely indicated midline, distinctly apparent only in front of posterior margin, with inconspicuous, irregular row of four to five larger punctures along each side of midline; punctation finer than that on head, very dense, slightly subrugose, interspaces without microsculptre. Scutellum with black tomentose pubescence. Elytra short, at suture markedly shorter (ratio 0.72), at sides shorter (ratio 0.85) than pronotum at midline, punctation fine, quite dense, granulose, black pubescence of each elytron becoming paler behind humeral area; disc of each elytron with several larger punctures. Wings each reduced to short, non functional stump. Abdomen with tergite 7 (fifth visible) without pale apical seam of palisade setae, tergites finely, moderately densely punctate, interspaces with fine. dense, irregular meshed microsculpture.

Male. Sternite 8 with moderately wide and deep, obtusely triangular medioapical emargination. Aedoeagus rather small, as in Fig. 4, median lobe with apical portion narrow with apex obliquely truncate, apex of paramere distinctly not reaching apex of median lobe.

Length 13.0-14.0 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA N. Yunnan Haba Mts. Bailakou pass 9.VII.2002 3300 m S. Murzin. I. Shokhin leg." Holotype in the Smetana collection, Ottawa, Canada; allotype in the Shibata collection, Tokyo.

Paratype: China: [Yunnan]: same data as holotype,  $1 \circ (YSC)$ .

Geographical distribution. Miobdelus rufipes is at present known only from the type locality in northern Yunnan.

*Bionomics.* Nothing is known about the habitat of this species.

Recognition and comments. Miobdelus rufipes may be easily recognized by the short antenna with outer segments as long as wide to slightly wider than long, the entirely rufobrunneous legs, the absence of any yellowish tomentose pubescence on the abdominal tergites, and by the absence of the pale apical seam of palisade setae on seventh (fifth visible) abdominal tergite. It cannot be confused with any other species of the genus.

The holotype is missing three segments of the right front tarsus, and the entire right hind tarsus. The allotype is missing the last segment of the left front tarsus.

Etymology. The specific epithet is a combination of the Latin adjective rufus, -a, -um (red) and the noun pes, -edis, m (leg). It refers to the coloration of the legs of the species.

## Miobdelus kitawakii sp. nov.

(Fig. 5)

Description. Black, head and pronotum with dark coppery metallic lustre, moderately shiny, elytra with less distinct coppery metallic lustre, rather dull, abdomen with apex becoming slightly paler; general pubescence piceous-black; abdominal tergite 6 (fourth visible) without patch of yellow tomentose pubescence in middle, visible tergites 1-4 each with a pair of small patches of black tomentose pubescence in middle, all abdominal tergites with some pale hairs intermixed among piceous-black general pubescence; maxillary and labial palpi and legs entirely rufobrunneous, antennae entirely testaceorufous with outer segments becoming slightly paler, or with middle segments vaguely darkened. Head of rounded quadrangular shape, broadly rounded posteriorly, vaguely wider than long (ratio 1.14), slightly dilated behind eyes, eyes moderately large, tempora markedly longer than eyes seen from above (ratio 1.38), dorsal surface of head densely and finely punctate posteriorly and on tempora, punctation gradually becoming distinctly coarser and less dense anteriomediad, disc of head with several moderately large, shiny pit-like punctures, Y-shaped epicranial line at most with only posterior longitudinal portion indistinctly apparent in front of posterior margin of head; interspaces between punctures without microsculpture. Antenna moderately long, segment 4 distinctly longer than wide (ratio 1.43) segments 5-7distinctly longer than wide, gradually becoming shorter, segment 8 slightly longer than wide, segments 9 and 10 about as long as wide, last segment shorter than two preceding segments combined. Pronotum longer than wide (ratio 1.24), anterior margin wider than posterior margin, lateral margins arcuately sinuate at about posterior third, disc with flat, narrow, moderately indicated midline and with inconspicuous, irregular row of four to five larger punctures along each side of midline; punctation finer than that on head, very dense, slightly subrugose, interspaces without microsculpture. Scutellum with black tomentose pubescence. Elytra relatively long, at suture about as long as, at sides vaguely longer (ratio 1.10) than pronotum at midline, punctation fine and very dense, granulose, disc of each elytron with a few larger punctures. Wings each moderately developed, folded under elytron. Abdomen with tergite 7 (fifth visible) with pale apical seam of palisade setae, tergites finely, moderately densely punctate, interspaces with fine, dense, irregular meshed microsculpture.

Male. Sternite 8 with moderately wide and deep, obtusely triangular medioapical emargination. Aedoeagus moderately large, as in Fig. 5, median lobe with apical portion rather short with apex narrowly arcuate, apex of paramere distinctly not reaching apex of median lobe.

Length 12.0-14.0 mm.

*Type material*. Holotype (male) and allotype (female): China: "CHINA. Sichuan (Daliang Shan) Meigu, Hongxi 20.–22.VII.1996 K. Kitawaki leg.". Holotype in the Shibata collection, Tokyo; allotype in the Smetana collection, Ottawa, Canada.

Paratypes: China: [Sichuan]: same data as holotype,  $1 \stackrel{?}{\circ}$ ,  $1 \stackrel{?}{\circ}$  (ASC, YSC); same data as holotype but date 18.-21.VII.1996,  $1 \stackrel{?}{\circ}$ ,  $1 \stackrel{?}{\circ}$  (ASC, YSC).

Geographical distribution. Miobdelus kitawakii is at present known only from the type locality in Daliang Shan in southern Sichuan.

Bionomics. Nothing is known about the habitat of this species.

Recognition and comments. Miobdelus kitawakii may only be confused, due to the coloration of the appendages, and the presence of the pale apical seam of palisade setae on the seventh (fifth visible) abdominal tergite, with *M. heinzi* SMETANA, 2001. However, *M. heinzi* differs, in addition to the differently shaped aedoeagus (fig. 25 in SMETANA, 2001, 185 and Fig. 5), by the darker antennae, by the pronotum variably, indefinitely paler laterally and basally, and by the presence of the spot of rusty tomentose pubescence on the fourth visible abdominal tergite. In addition, the two species are isolated geographically; *M. heinzi* appears to be endemic to the Emei Shan range.

One specimen, excluded from the original series, bearing the same collection data as the paratypes with the date 18.–21.VII.1996, differs from all specimens of the original series by the piceous-black antennae and legs and by the bluish metallic lustre of the fore body, in addition to the marginally different aedoeagus. There is a possibility that the different coloration of the body and the appendages is secondary and was caused by exposure to chemicals, possibly in pitfall traps or during subsequent handling. The differences in the shape of the aedoeagus are not significant enough to warrant a separate specific status for the specimen. The determination label "Miobdelus kitawakii? A. Smetana det. 2005" was attached to it.

*Etymology*. Patronymic, the species was named in honor of the collector of the specimens of the original series, the late Wakô KITAWAKI.

#### Miobdelus opacus sp. nov.

(Fig. 6)

Description. Black, dull, abdomen with apex becoming slightly paler; general pubescence piceous-black; abdominal tergite 6 (fourth visible) with patch of yellow tomentose pubescence in middle, visible tergites 1-4 each with a pair of small patches of black tomentose pubescence in middle, tergite 7 (fifth visible) with a few yellowish hairs in middle; maxillary and labial palpi brownish, antennae and legs entirely piceous-black. Head of rounded quadrangular shape, broadly rounded posteriorly, somewhat wider than long (ratio 1.23), hardly dilated behind eyes, eyes moderately large, tempora markedly longer than eyes seen from above (ratio 1.38), dorsal surface of head densely and finely punctate posteriorly and on tempora, punctation gradually becoming distinctly coarser and less dense anteriomediad, disc of head with numerous moderately large, shiny pit-like punctures, Y-shaped epicranial line entirely obsolete; interspaces between punctures without microscuplture. Antenna moderately long, segment 4 distinctly longer than wide (ratio 1.50) segments 5-8 distinctly longer than wide, gradually becoming shorter, segment 9 slightly longer than wide, segment 10 about as long as wide, last segment shorter than two preceding segments combined. Pronotum somewhat longer than wide (ratio 1.17), anterior margin wider than posterior margin, lateral margins arcuately sinuate at about posterior third, disc with flat, narrow, moderately indicated midline and with inconspicuous, irregular row of five to six larger punctures along each side of midline; punctation marginally finer than that on head, very dense, slightly subrugose, interspaces without microsculpture. Scutellum with black tomentose pubescence. Elytra rather short, at suture distinctly shorter (ratio 0.72), at sides slightly shorter (ratio 0.89) than pronotum at midline, punctation fine and very dense, granulose, disc of each elytron with a few larger punctures. Wings each reduced to a non-functional stump. Abdomen with tergite 7 (fifth visible) without pale apical seam of palisade setae, tergites finely, moderately densely punctate, interspaces with fine, dense, microsculpture of irregular, short transverse waves.

Male. Sternite 8 with moderately wide and rather shallow, obtusely triangular medioapical emargination. Aedoeagus rather small, as in Fig. 6, median lobe with apical portion rather short and narrow, with apex narrowly obtuse; apex of paramere distinctly not reaching apex of median lobe.

Length 17.0 mm.

*Type material.* Holotype (male): China: "Ch-S Sichuan, 26–27.VI.1998 road Xichang – Yanyuan, pass 15 km SW PINGCHUAN 23.33N. 101.49E. cca. 3,200 m Jaroslav Turna leg." In the collection of the Naturhistorisches Musem Wien, Austria.

Geographical distribution. Miobdelus opacus is at present known only from the type locality in southern Sichuan.

Bionomics. Nothing is known about the habitat in which the holotype was taken. Recognition and comments. Miobdelus opacus may be easily recognized, in addition to the shape of the aedoeagus, by the black, dull body, by the entirely piceous-

back antennae and legs, by the presence of the patch of yellow tomentose pubescence in the middle of the abdominal tergite 6 (fourth visible), and by the absence of the pale apical seam of palisade setae on the seventh (fifth visible) abdominal tergite.

*Etymology*. The specific epithet is the Latin adjective *opacus*, -a, -um (dull). It refers to the appearance of the species.

## Miobdelus tenuis sp. nov.

(Fig. 7)

Description. In all characters similar to M. gracilis SMETANA, 2001, but different as follows: body on average less slender, head and pronotum with less pronounced, inconspicuous metallic lustre, general pubescence of fore body dark, piceous to piceousblack (yellowish-brown to rusty brown and somewhat variegate on elytra in M. gracilis), appendages paler, first 3-4 antennal segments usually partially paler, legs with tibiae and tarsi usually appreciably paler. Head wider (ratio width/length 1.20, corresponding ratio for M. gracilis=1.08), pronotum wider (ratio length/width 1.10, corresponding ratio for M. gracilis=1.23), elytra distinctly shorter, at suture distinctly shorter (ratio 0.83), at sides vaguely shorter (ratio 0.97) than pronotum at midline (M. gracilis: elytra at suture about equally long as pronotum at midline, and at sides distinctly longer than pronotum at midline, ratio 1.21). Wings each reduced to a nonfunctional stump. Abdomen with tergite 7 (fifth visible) with fine, pale apical seam of palisade setae; tergite 6 (fourth visible) with small patch of yellow tomentose pubescence in middle, visible tergites 1-4 each with a pair of small patches of black tomentose pubescence in middle, all visible tergites without intermixed pale hairs, present in M. gracilis.

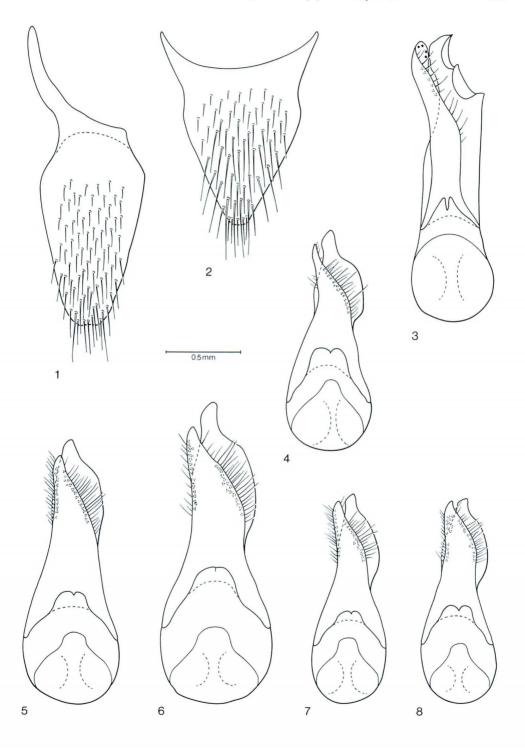
Male. Sternite 8 with moderately wide and rather shallow, arcuate medioapical emargination. Aedoeagus small, as in Fig. 7, median lobe with apical portion narrow, apex obliquely truncate, right lateral margin below apex evenly arcuate in ventral view (subangulately, abruptly narrowed posteriad in *M. gracilis*); apex of paramere not quite reaching apex of median lobe.

Length 11.0-13.0 mm.

Type material. Holotype (male) and allotype (female): China: "CHINA Shaanxi 15 km S Shou-Man vill. Daba Shan, 1800 m 32°08′N 108°37′E 25.5.–14.6.2000". Holotype in the Naturhistorisches Museum, Wien, Austria; allotype in the SMETANA collection, Ottawa, Canada.

Paratypes: China [Shaanxi]: same data as holotype,  $7 \ \mathring{\circ} \ \mathring{\circ} \ (ASC, NMW)$ ; (Daba Shan),  $1800 \ \text{m}$ ,  $15 \ \text{km} \ S$  Shou-Man vill.,  $32^{\circ}08' \ N \ 108^{\circ}37' \ E \ 25.V.-14.VI.2000$ , Siniaev & Plutenko,  $4 \ \mathring{\circ} \ \mathring{\circ} \ , 1 \ \mathring{\circ} \ (ASC, MSC)$ .

Figs. 1–8. —— 1–3. *Miobdelus insignis*: 1, sternite 9 of male genital segment; 2, tergite 10 of male genital segment; 3, aedoeagus, ventral view. —— 4–8. Aedoeagi, ventral view. 4. *Miobdelus rufipes*. 5. *Miobdelus kitawakii*. 6. *Miobdelus opacus*. 7. *Miobdelus tenuis*. 8. *Miobdelus gemellus*.



Geographical distribution. Miobdelus tenuis is at present known only from the type locality in Daba Shan.

*Bionomics*. The specimens of the original series were obviously taken from pit-fall traps, but nothing is known about the habitat the traps were set in.

Recognition and comments. Miobdelus tenuis may only be confused with M. gracilis, but it may easily be distinguished, in addition to the distinctly different shape of the aedoeagus (fig. 23 in SMETANA, 2001, 183 and Fig. 7), by the differences outlined above.

All specimens of the original series come obviously from the same set of traps. They are in general in bad shape, especially those without collectors name; the appendages are commonly missing and the pubescence of the body is badly damaged and/or missing. This is obviously due to the extended exposure to the fluids in the pit-fall traps (almost three weeks). Fresh specimens are needed for proper assessment of the pubescence of the body of this species.

*Etymology*. The specific epithet is the Latin adjective *tenuis*, -*e* (slender). It refers to the slender body shape of the species.

## Miobdelus gemellus sp. nov.

(Fig. 8)

Description. In all characters, including pubescence of dorsal side of body, similar to *M. lacustris* SMETANA, 2001, but different as follows: body on average slightly more robust, head and pronotum with less pronounced, inconspicuous, dark metallic lustre, elytra always piceous-black. Head wider (ratio width/length 1.20, corresponding ratio for *M. lacustris*=1.10), pronotum wider (ratio length/width 1.14, corresponding ratio for *M. lacustris*=1.22), elytra markedly shorter, at suture distinctly shorter (ratio 0.76), at sides vaguely shorter (ratio 0.92) than pronotum at midline (*M. lacustris*: elytra at suture about equally long as pronotum at midline or vaguely shorter, ratio 0.93, and at sides appreciably longer than pronotum at midline, ratio 1.18). Wings considerably reduced, non-functional, each folded once under elytron. Abdomen with tergite 7 (fifth visible) with fine, pale apical seam of palisade setae.

Male. Sternite 8 with moderately wide and rather shallow, almost arcuate medioapical emargination. Aedoeagus as in Fig. 8, similar to that of *M. lacustris*, but apical portion of median lobe shorter, obliquely truncate; paramere narrower, almost reaching apex of median lobe (compare fig. 19 in SMETANA, 2001, 181 for aedoeagus of *M. lacustris*).

Length 12.0-13.0 mm.

*Type material*. Holotype (female): China: "CHINA: W-Hubei Daba Shan pass E Mt. Da Shennongjia 12 km NW Muyuping 1950m"/"31°30′N 110°21′E 16–22.VII. 01 pitfall traps A. Smetana [C105]". In the SMETANA collection, Ottawa, Canada.

Allotype (male): China: "CHINA (S-Shaanxi) Daba Shan creek valley SE pass, 20 km NW Zhenping, 1680 m 31°59′N 109°22′E (young mix. decid. for. (leaves sift.)

11.VII. 2001 Wrase [10a]. In the SCHÜLKE collection, Berlin.

Paratypes: China: [Hubei]: same data as holotype,  $2 \, \Im \, (ASC)$ ; same data as holotype, but Wrase [13],  $2 \, \Im \, (ASC)$ ; same data as holotype, but Schülke [C-01-13B],  $1 \, \Im \, (MSC)$ ; W-Hubei Daba Shan pass E Mt. Da Shennongjia 12 km NW Muyuping 2050 m 31°30′N 110°21′E 19–22.VII.01 pitfall traps A. Smetana [C114],  $1 \, \Im \, (ASC)$ 

Geographical distribution. Miobdelus gemellus is at present known from two localities in Daba Shan (Shaanxi and Hubei).

*Bionomics*. Most of the specimens of the original series were taken from pitfall traps, set mostly in mixed deciduous forests at elevations around 2,000 m. The paratype was taken in a young mixed deciduous forest at 1,680 m by sifting leaf litter and other debris.

Recognition and comments. Miobdelus gemellus may only be confused with M. lacustris, but it may easily be distinguished, in addition to the different shape of the aedoeagus (fig. 19 in SMETANA, 2001, 183 and Fig. 8), by the differences outlined above.

The only male specimen of this species was not designated as the holotype, because it is markedly teneral, which profoundly affects the coloration of both the body and the appendages.

*Etymology*. The specific epithet is the Latin adjective *gemellus*, -*a*, -*um* (similar). It refers to the similarity of the species with *M. lacustris*.

Since the publication of the key to the species of the genus *Miobdelus* (SMETANA, 2001, 165–167), six species were added to the genus, all occurring in mainland China. Therefore, a new key to the species of *Miobdelus* of mainland China is presented below.

#### Key to Species of Miobdelus Occurring in Mainland China

1. Elytra on basal half with common spot of greyish tomentose pubescence with ir-
regular distal margin, and extended somewhat posteriad along each lateral elytral
margin. Aedoeagus as in Fig. 3. Large species, length 19.0-21.0 mm. Fujian,
Shaanxi, Sichuan
— Elytra on basal half without common spot of greyish tomentose pubescence. Ae-
doeagi different. Smaller species, length not exceeding 17.0 mm, but usually dis-
tinctly shorter
2. Abdominal tergite 7 (fifth visible) with more or less distinct, greyish or greyish-
white apical seam of palisade setae
— Abdominal tergite 7 (fifth visible) without greyish or greyish-white apical seam of
palisade setae
3. Dorsal surface of head and pronotum bright metallic green, or dark bluish 4
— Dorsal surface of head and pronotum of different color
4. Dorsal surface of head and pronotum bright metallic green; entire scutellum with
black tomentose pubescence; punctation of head dense but becoming sparser
toward apical margin of clypeus, exposing distinct, shiny interspaces between

punctures. Aedoeagus as in figs. 16-17 (in SMETANA, 2001, 177). Length 11.5-
12.0 mm. Sichuan (Gongga Shan)
<ul> <li>Dorsal surface of head and pronotum dull dark blue; base of scutellum with narrow</li> </ul>
band of yellowish tomentose pubescence; punctation of head, including entire
clypeus, quite dense, without any appreciably wider interspaces between punc-
tures, appearing quite dull. Aedoeagus as in fig. 18 (in SMETANA, 2001, 181)
Length 12.0 mm. Sichuan (Gongga Shan) M. caelestis SMETANA, 2001
5. Antenna short, segment 4 as long as wide to slightly longer than wide (ratios up to
1.17), outer segments 8-10 variably wider than long (ratios 1.15-1.25), or a
most as long as wide
— Antenna moderately long to long, segment 4 distinctly longer than wide (ratios
1.45–1.55), outer segments 8–10 appreciably longer than wide (ratios 1.18-
1.26), or at most as long as wide.
6. Head with Y-shaped epicranial line distinctly developed; clypeus with variably
large areas impunctate. Abdominal tergite 7 (fifth visible) without pale apica
seam of palisade setae in most specimens. Aedoeagus as in figs. 40–43 (in
SMETANA, 2001, 197). On average smaller, less robust species. Length 8.8-
13.0 mm. Widely distributed in mountain ranges of Gansu, Shaanxi, Sichuan
Yunnan and Xizang
— Head with Y-shaped epicranial line not apparent, or with only posterior part of it
longitudinal portion vaguely indicated; clypeus without impunctate areas. Ab
dominal tergite 7 (fifth visible) with pale apical seam of palisade setae. Aedoe
agus different (figs. 27, 28 in SMETANA, 2001, 185). On average larger, more ro
bust species. Length 11.5–14.5 mm. Shaanxi, Sichuan, Yunnan.
7. Estim land to the total and Substitution (S.L.)
7. Entire legs testaceorufous to rufobrunneous
— Legs predominantly dark, brunneopiceous to piceous-black
8. Abdominal tergite 6 (fourth visible) with spot of rusty tomentose pubescence in
middle. Pronotum indefinitely paler laterally and basally, antenna piceous with
first two and basal half of third segment testaceorufous. Aedoeagus as in figs. 25
26 (in SMETANA, 2001, 185). Length 11.0–12.5 mm. Sichuan (Emei Shan)
— Abdominal tergite 6 (fourth visible) without spot of conspicuously colored tomen-
tose pubescence in middle. Pronotum uniformly dark, antenna entirely testaceo-
rufous. Aedoeagus as in Fig. 5. Length 12.0-14.0 mm. Southern Sichuar
(Daliang Shan)
9. Elytra short, at suture distinctly shorter (ratios 0.76, 0.83), at sides vaguely shorter
(ratios 0.92, 0.97) than pronotum at midline. Wings considerably reduced, non-
functional
— Elytra moderately long, at suture vaguely shorter (ratio 0.93) or as long as, at sides
longer (ratios 1.18, 1.21) than pronotum at midline. Wings fully developed, func-
tional

<ul> <li>10. Hind tarsus very long, about as long as hind tibia. Pit-like punctures on head and pronotum moderately large, not conspicuous. Slender species. Aedoeagus as in Fig. 7. Length 11.0–13.0 mm. Shaanxi (Daba Shan)</li></ul>
11. Apical portion of median lobe of aedoeagus in ventral view short and wide, with right lateral margin subangulately, abruptly narrowed posteriad (fig. 23 in SMETANA, 2001, 183). On average smaller and more slender species. Length 10.78–11.8 mm. Sichuan (Gongga Shan)
— Apical portion of median lobe of aedoeagus in ventral view narrower and more elongate, with apex of median lobe with right lateral margin not abruptly narrowed posteriad (fig. 19 in SMETANA, 2001, 181). On average larger and less slender species. Length 12.5–14.0 mm. Sichuan (Gongga Shan).
12. Antenna short, segment 4 as long as wide to slightly longer than wide (ratios up to 1.15), outer segments 8–10 at least slightly wider than long (ratio at least 1.20).
— Antenna moderately long to long, segment 4 distinctly longer than wide (ratios around 1.6), outer segments 8–10 appreciably longer than wide (ratios 1.16–1.24), or at most as long as wide.
13. Legs entirely rufobrunneous. Abdominal tergite 6 (fourth visible) without patch of yellowish tomentose pubescence. Aedoeagus as in Fig. 4. Length 13.0–14.0 mm.  Northern Yunnan
Legs piceous-black to black with variably paler tarsi. Abdominal tergite 6 (fourth visible) with patch of yellowish tomentose pubescence in middle. Aedoeagus as in figs. 40–43 (in SMETANA, 2001, 197). Length 8.8–13.0 mm. Widely distributed in mountain ranges of Gansu, Shaanxi, Sichuan, Yunnan and Xizang
14. Abdominal tergite 6 (fourth visible) without distinct patch of yellow or yellowish-golden tomentose pubescence in middle
— Abdominal tergite 6 (fourth visible) with distinct patch of yellow or yellowish-golden tomentose pubescence in middle, or abdominal tergites 3–7 (first to fifth visible) each with similar pattern involving testaceo-yellowish tomentose pubescence in middle
15. Head, pronotum and elytra with dark purplish metallic lustre, that of elytra often bluish-purple. Apical portion of median lobe of aedoeagus narrow and elongate, considerably exceeding apex of paramere (figs. 29–30 in SMETANA, 2001, 189). Sternite of male genital segment narrow, at least slightly notched in middle of
apical margin. Length 10.5–12.0 mm. Sichuan (Gongga Shan)

<ul> <li>Head, pronotum and elytra with inconspicuous, dark coppery metallic lustre. Apical portion of median lobe of aedoeagus short, only slightly exceeding apex of paramere (figs. 31–32 in SMETANA, 2001, 189). Sternite 9 of male genital segment wide, apical margin not notched in middle. Length 11.0–12.5 mm. Sichuan (Daxue Shan, incl. Gongga Shan)</li></ul>
— Tomentose pattern on abdominal tergites different
17. Abdominal tergites 3–6 (first to fourth visible) each with numerous intermixed tes-
taceo-yellowish tomentose pubescence. Aedoeagus as in fig. 37 (in SMETANA, 2001, 195). Length 14.0–15.0 mm. Southern Sichuan
— Abdominal tergites 3–7 (first to fourth visible) each without appreciable intermixed testaceo-yellowish tomentose pubescence
18. Antennae and legs entirely piceous-black. Aedoeagus as in Fig. 6. Length 17.0 mm. Southern Sichuan
— Antennae rufo-brunneous, legs rufo-brunneous to brunneous. Aedoeagi different.
<ul> <li>19. Aedoeagus small, apex of paramere in ventral view at least slightly esceeding apex of median lobe (fig. 33, in SMETANA, 2001, 189). Apical margin of sternite 9 of male genital segment evenly arcuate. Length 11.5–13.5 mm. Yunnan (Yulongshan)</li></ul>

## Checklist of the Species of the Genus Miobdelus

atricornis Smetana, 2001	Gansu, Shaanxi, Sichuan, Yunnan
aureonotatus Smetana, 2001	Yunnan (Yulongshan)
biseriatus Smetana, 2001	Southern Sichuan
brevipennis Sharp, 1889	Japan
caelestis Smetana, 2001	Sichuan (Gongga Shan)
choui Smetana, 2001	Taiwan (Hualien Hsien)
egregius Smetana, 2001	Sichuan (Emei Shan)
gemellus Smetana, 2005	Hubei (Daba Shan), Shaanxi (Daba Shan)
gracilis Smetana, 2001	Sichuan (Gongga Shan, Daliang Shan)
heinzi Smetana, 2001	Sichuan (Emei Shan)
inornatus Smetana, 2001	Sichuan (Daxue Shan)

insignis J. Müller, 1926 (Staphylinus)

fokiensis Bernhauer, 1933 (Staphylinus)

insularis insularis Smetana, 2001 insularis kuai Smetana, 2001

insularis tenchi Smetana, 2001

kitawakii Smetana, 2005

kubani Smetana, 2001

lacustris Smetana, 2001

montivagus SMETANA, 2001

opacus Smetana, 2005

purpurascens SMETANA, 2001

rufipes Smetana, 2005

taiwanensis apicalis Smetana, 2001

taiwanensis taiwanensis SMETANA, 2001

tenuis Smetana, 2005

turnai SMETANA, 2001

Fujian, Shaanxi, Sichuan

Taiwan (Kuanshan)

Taiwan (Peitawushan)

Taiwan (Nenkaoshan)

Sichuan (Daliang Shan)

Yunnan (Yulongshan)

Sichuan (Gongga Shan, Erlang Shan)

Gansu, Qinghai, Shaanxi, Sichuan, Xizang

Sichuan (Daliang Shan)

Sichuan (Gongga Shan)

northern Yunnan

Taiwan (Houhuanshan)

Taiwan (Anmashan)

Shaanxi (Daba Shan)

Sichuan (Daliang Shan)

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#### 要約

A. SMETANA:中国産ダイミョウハネカクシ属群に関する知見、8. サビイロモンキハネカクシ属の2. — 中国各地、とくに四川省、云南省、陕西省などで採集された総計350点を超える標本に基づいて、サビイロモンキハネカクシ属の種を再検討し、それらを検索表と目録とにまとめた。この作業過程で見いだされた5新種を記載し、Miobdelus rufipes(云南省)、M. kitawakii、M. opacus、M. tenuis(いずれも四川省)、およびM. gamellus(湖北省および陕西省)の新名を与えた。また、M. insignis を再記載し、四川省と陕西省から新たに記録するとともに、M. atricornis を甘粛省から初めて記録した。

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- —— 2003. Ditto. Part 4. Key to Chinese genera of the complex, treatment of *Collocypus* gen. n., *Ocychinus* gen. n., *Sphaerobulbus* gen. n., *Aulacocypus* stat. n. and *Apecholinus* stat. n., and comments on the genus *Protocypus*. *Ibid.*, **11**: 57–136.
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Elytra, Tokyo, 33 (2): 588, November 19, 2005

## A New Record of *Allotraeus boninensis* (Coleoptera, Cerambycidae) from Otôto-jima Island of the Ogasawara Islands

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Allotraeus (Nysina) boninensis (GRESSITT, 1937) was described from the Bonin Isls. (=Ogasawara Isls.), without exact data of the name of island. Later, this species was rediscovered from Haha-jima Is. and Chichi-jima Is., though no other record has so far been known from the other accessory islands. I collected four adult specimens of A. boninensis emerged out from a dead trunk of the host plant from Otôto-jima Is. of the Chichi-jima Group. I will record it for the first time from Otôto-jima Is. as given below.

## Allotraeus (Nysina) boninensis (GRESSITT, 1937)

Pseudallotraeus boninensis Gressitt, 1937, Kontyû, Tokyo, 11, p. 319, fig.1; type locality: Bonin Isls., Japan.

Allotraeus (Nysina) boninensis: GRESSITT, 1956, Ins. Micronesia, 17, p. 75.

Specimens examined. 336, 19, Kurohama, Otôto-jima Is., Chichi-jima Group, Ogasawara Isls., host plant collected in XI–1994, adult beetle emerged out in VI–1995, M. TAKEDA leg. Host plant: Cinnamomum pseudo-pedunculatum HAYATA (Lauraceae).

Distribution. Ogasawara Isls.: Haha-jima Is., Chichi-jima Is. and Otôto-jima Is. (new record).